



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,147	03/03/2004	Grace H. Ho	67,200-974	4838

7590 07/28/2006

TUNG & ASSOCIATES
838 W. Long Lake Road, Suite 120
Bloomfield Hills, MI 48302

EXAMINER

LAUCHMAN, LAYLA G

ART UNIT	PAPER NUMBER
----------	--------------

2877

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/792,147

Applicant(s)

HO ET AL.

Examiner

L. G. Lauchman

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

Claim Objections

Claims 5 and 15 are objected to because of the following informalities: "Scribe lane marks" should be --scribe line marks-- (also throughout the specifications). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Nin (US 6,828,071).

As to Claim 1, Nin discloses a semiconductor wafer comprising: a plurality of fields on the wafer (see Fig. 3, col. 2, lines 6 and 7) within the plurality of fields, each alignment field having a plurality of intra-field overlay alignment mark pairs (349) therearound for in-situ, non-passive intra-field alignment correction (col. 2, lines 15-19).

As to Claims 2 and 3, the plurality of fields comprises the plurality of alignment fields correspond to semiconductor dies (col. 1 lines 9-10), and the plurality of fields comprises the plurality of alignment fields correspond to semiconductor devices.

As to Claim 4 and 5, the plurality of intra-field overlay alignment mark pairs numbers is two (two 349 marks), and each of the plurality of intra-field overlay alignment mark pairs comprises a pair of extra scribe-lane marks (see the shaper of mark 349).

As to claim 6, Nin disclose a method comprising: providing a semiconductor wafer (see Fig.5, step10); defining a plurality of fields on the semiconductor wafer, including a plurality of alignment fields (step 30); and, providing a plurality of intra-field overlay alignment mark pairs around each of the plurality of alignment fields to provide for non-passive intra-field alignment correction (step 40).

As to Claim 7 and 8, the method of Nin provides a plurality of fields corresponding to semiconductor dies (col. 1 lines 9-10).

As to Claims 9 and 10, the method of Nin provides two of the plurality of alignment intra-fields (two 349 marks).

As to Claim 12, Nin teaches a semiconductor wafer comprising: a plurality of fields; a pair of alignment fields within the plurality of fields (see Fig. 3, col. 2, lines 6 and 7), further comprising an alignment field having 2-4 pairs of intra-field overlay alignment mark pairs there around for in-situ, non-passive intra-field alignment correction (col. 2, lines 15-19).

As to Claim 13, the plurality of fields comprises the pair of alignment fields correspond to semiconductor dies.

As to Claim 14 and 15, the plurality of fields comprising the pair of alignment fields correspond

to semiconductor devices and each of the pair of intra-field overlay alignment mark pairs comprises a pair of extra scribe-lane marks.

Allowable Subject Matter

Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record taken along or in combination, fails to disclose or render obvious providing the plurality of intra-field overlay alignment mark pairs around each of the plurality of alignment fields comprises providing a plurality of extra scribe-lane mark pairs around each of the plurality of alignment fields, in combination with the rest of the limitations of the claim.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to L. G. Lauchman whose telephone number is (571) 272-2418. The examiner's normal work schedule is 8:00am to 4:30pm (EST), Monday through Friday. If attempts to reach examiner by the telephone are unsuccessful, the examiner's supervisor Gregory J. Toatley, Jr. can be reached on (571) 272-2059, ext. 77.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC receptionist whose telephone number is (571) 272-1562.



L. G. Lauchman
Primary Examiner
Art Unit 2877

July 18, 2006